

ABSTRACT OF THE DISCLOSURE

An ultrasonic vibrator includes a diaphragm, a side plate which stands on the principal surface of the diaphragm, and a vibrator body placed inside the side plate on the principal surface of the diaphragm in order to apply ultrasonic vibration to the diaphragm. The diaphragm has a thin portion at least in a part of the periphery of an area where the vibrator body is placed. A wet-treatment nozzle includes a supply pipe having, at one end, an inlet for admitting a treatment liquid, a drain pipe having, at one end, an outlet for discharging the waste liquid to the outside after wet treatment, and a connecting portion which faces a workpiece and which connects the other ends of the supply pipe and the drain pipe. The ultrasonic vibrator is placed in the connecting portion of the wet-treatment nozzle.